

REMARKS

Enclosed herewith is a Substitute Specification in which the specification as filed has been amended in various places to correct typographical and grammatical errors, and to also add section headings.

In support of the above, enclosed herewith is a copy of the specification as filed marked up with the above changes.

The undersigned attorney asserts that no new matter has been incorporated into the Substitute Specification.

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

Applicants believe that the above changes answer the Examiners objections to the specification and claims, and the Examiner's 35 U.S.C. 112, paragraph 2, rejection of the claims, and respectfully request withdrawal thereof.

The Examiner has rejected claims 1, 2, 6, 7, 9 and 10 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,026,072 to Taira et al. The Examiner has further rejected claims 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Taira et al. in view of U.S. Patent 6,661,415 to Yasuda et al. In addition, the Examiner has rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over Taira et al. in view of U.S. Patent 4,609,813 to Cohen. Applicants acknowledge that the Examiner has found claim 8 allowable over the prior art of record.

The Taira patent discloses an optical disk and method of manufacturing the same, in which an optical recording medium is irradiated by a light beam that forms an oval spot profile having a shorter axis in the information recording direction.

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The subject invention, as claimed in claims 1, includes the limitation "said optical means comprises means for influencing said light beam from said light source to said record carrier during recording of information, said influencing means using astigmatism to obtain a light beam having a substantial oval spot profile having a shorter axis in the information recording direction compared to a radial direction orthogonal to the information recording direction".

The Examiner has indicated that this limitation is disclosed in Taira et al. at col. 10, lines 40-55, and then references Fig. 13 therein with regard to the oval spot profile.

Applicants would like to first point out that Fig. 13 of Taira et al. shows "some shapes of the pits formed in the surface

of the optical disk", there being no showing in Fig. 13 of the light beam spot profile.

With regard to col. 10, lines 40-55, there seems to be some discrepancy between the description of the spot profile formed on the optical disk and that which is indicated in Fig. 8, i.e., while the description indicates "an elliptical beam spot elongated along the radius of the master 32", Fig. 8 appears to show just the opposite - elongated orthogonal to the radius.

Notwithstanding the above discrepancy, it should be noted that Taira et al., at col. 10, lines 44-48, states "...an elliptical aperture 51 is provided in the optical path to the objective lens 30, more precisely in front of the mirror 29. The aperture 51 changes a laser beam 50 having a circular cross section to a laser beam 52 having an elliptical cross section."

Applicants submit that there is no disclosure or suggestion in Taira et al. that changing the light beam spot profile from round to elliptical is effected through the use of astigmatism. Rather, Taira et al. finds it necessary to use an elliptical aperture. Applicants believe that this difference is significant, i.e., the use of astigmatism is not equivalent to the use of an elliptical aperture, in that the use of an aperture necessarily blocks some of the light emanating from the light source thereby reducing the power available at the optical recording medium. In the subject invention, on the other hand, as indicated in the Substitute Specification on page 2, line 24 to

page 3, line 10 (paragraph [0008]), by using astigmatism, no optical power is lost.

The Yasuda et al. patent discloses a liquid crystal driver and optical head for tilt correction, in which a liquid crystal element is divided into cylindrical regions "and by designing the connection from the potential drivers, tilt correction is performed while correcting spherical aberration of the object lens" (col. 10, lines 27-30).

However, Applicants submit that there is no disclosure or suggestion that the liquid crystal element of Yasuda et al. is capable of or intended for adding astigmatism to the light beam passing through the element. Hence, while the liquid crystal element of Yasuda et al. may be added to the system of Taira et al. in order to correct spherical aberrations, Yasuda et al. does not supply that which is missing from Taira et al., i.e., "said optical means comprises means for influencing said light beam from said light source to said record carrier during recording of information, said influencing means using astigmatism to obtain a light beam having a substantial oval spot profile having a shorter axis in the information recording direction compared to a radial direction orthogonal to the information recording direction".

The Cohen patent discloses optical systems employing ovate light beams, in which a cylindrical lens is interposed in the beam path to a quadrant detector 40 in order to eliminate focus offset errors caused by beam ellipticity.

Applicants submit, however, that there is no disclosure or suggestion in Cohen that a cylindrical lens should be used to introduce astigmatism thereby converting a round cross-section light beam into a light beam having a substantial oval spot profile. Hence, Cohen does not supply that which is missing from Taira et al., i.e., "said optical means comprises means for influencing said light beam from said light source to said record carrier during recording of information, said influencing means using astigmatism to obtain a light beam having a substantial oval spot profile having a shorter axis in the information recording direction compared to a radial direction orthogonal to the information recording direction".

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-10, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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